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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,306	07/03/2003	Oleg Kiselev	VRT0059US	8239

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EXAMINER

ELMORE, STEPHEN C

ART UNIT PAPER NUMBER

2186

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/614,306

Applicant(s)

KISELEV, OLEG

Examiner

Stephen Elmore

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/14/04, 9/2/04.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.


STEPHEN C. ELMORE
PRIMARY EXAMINER

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DETAILED ACTION

1. This Office action responds to the application filed July 3, 2003 and made special by petition.
2. Claims 1-38 are presented for examination.

Information Disclosure Statement

3. The record shows that the IDS received 9-2-2004 is a duplicate of the identical IDS received 5-14-2004. Therefore, a "lined-through" copy of this submission has been returned with this action for the reason that all of the identical entries have already been considered, as shown by the included signed and initialed 5-14-2004 IDS.

Drawings

4. The drawings are objected to because:
 - a. The drawings are objected to under 37 CFR § 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following feature(s) must be shown or the feature(s) canceled from the claim(s):
 1. Claims 1-7, 9-18, 20-21, 23-28, 30-32, and 34-38 recite the feature "stripe unit B_x", however, the drawings do not contain any stripe unit which is characterized as "B_x", instead they show a completely different labeling scheme, "B_{y,x}", the features shown in the drawings need to match those recited in the claims, otherwise the drawings fail to meet 37 CFR 1.83(a), as well as causing the drawings to be indefinite when compared to the claims;
 2. Claims 4, 26 and 36, the feature "overwriting...unless a third request" is not shown;
 3. Claim 6, "notifying the computer system of data inconsistency..." is not shown;
 4. Claim 8, "wherein the failure is communicated to the computer system as an error that indicates a data corruption condition";
 5. Claim 9, "determining that the parity data for the stripe containing stripe unit B_x is corrupted and repairing it";
 6. Claim 10, "wherein new parity information...is recalculated from...";
 7. Claim 11, "wherein the new parity information is written back";

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8. Claim 12, "determining that data stored in stripe unit B_x is corrupted and repairing it";
9. Claim 14, "wherein the new data for stripe unit B_x is written to stripe unit B_x ";
10. Claims 17, 18, 30 and 31, "overwriting data of stripe unit B_x with the copy of the new data...it is valid";
11. Claims 23-37, "computer readable medium storing instructions executable..."
this feature is not shown in the drawings since, for example, RAID controller 18 doesn't show firmware containing executable instructions.

No new matter should be entered.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR § 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The disclosure is objected to because of the following informalities:
 - a. Copending application needs to be identified on page 5;
 - b. page 9, para [0031], first sentence, in the language "an entry containing stripe unit quantity m and first stripe unit identity $B_{y,x}$ " it should be made clear that " x " takes on the value of the first unit of the set of m units of stripe units appearing in table 62, this is unclear in the present

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language since "x" has a different meaning in this instance than in the other representations of "x" in the remainder of the specification, such an amendment would make the disclosure more clear;

c. Applicant is reminded of 37 C.F.R. 1.75 (d)(1) which states that the claim or claims must conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description. The specification is objected to because, with respect to the feature in Claims 23-37, "computer readable medium storing instructions executable..." this feature is not disclosed or have antecedent basis in the description;

d. the specification is objected to because it contains the terminology "new data", for example at locations,

i. paras [0009] and [0010], and

ii para [0025],

where the meaning of "new data" at these two locations is not consistent in or across the spec,

at location (i) the term is describing data that has been returned that has been determined corrupted, so is known to be "not reliable",

at location (ii) the term is describing newly generated data (newly calculated from stripe data units and parity data) and is therefore considered "reliable" to replace requested data that is otherwise known to be corrupted at the source or during transport, thus mandating that the data has to be newly generated;

these are clearly two very different meanings for the term "new data",

there could be other poorly conceived uses of the terminology "new data" in the spec, it would be a burden to the examination to point out all possible instances, nevertheless, the above shows that the terminology "new data" does not have a consistent meaning in the spec,

but, moreover, aside from this objection, the spec (and in fact, the claims) use of the term "new data" with the intention to describe the concept of:

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newly generated data (that has been requested from a RAID stripe - whose source is no longer reliable), and therefore, the request mandates the new generation of the requested data,

is a very poor choice of terminology because, without an expressly stated definition in the spec and consistency in the use of the term, the present teaching of this central idea of the present invention is inadequately done, insufficient to clearly convey to one of ordinary skill the scope of meaning of the present invention. "New data" *per se* can be anything but the originally requested data, is one legitimate, fair interpretation. New data and newly generated data are not the same thing. Unless an express definition in the spec is provided, a more broad meaning can be given in the interpretation of the claims.

Appropriate correction is required.

Claim Objections

6. Claim 10 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

a. As to claim 10, the entire scope of the additional limitations in claim 10 are necessarily inherent properties and activities of the feature "repairing (parity data)" in parent claim 9 since claim 10 contains only those steps required to repair parity data.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 1-38 are rejected under 35 U.S.C. 112, first paragraph, because the specification, as to independent claims 1, 15, 19, 23, 27, 33 and 38,

while being enabling for the scope of the limitation,

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"generating requested data by parity and stripe calculation in response to a data request for a stripe unit $B_{y,x}$ ",

does not reasonably provide enablement for the scope of the limitation,

"generating new data for stripe unit B_x ",

because:

1) the term "new data" is not a term in the art, nor has it been expressly defined in the specification by Applicant, and therefore could fairly be interpreted to mean any data that has been generated in any way by any means or procedure, however, the disclosure of the present invention does not teach such a broad scope of coverage for this term, but only teaches the means and method of generating the new data that Applicant knows, and

2) there is taught no such thing or entity as a stripe unit B_x , this entity is only taught in the disclosure as a stripe unit $B_{y,x}$,

therefore, the specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims;

And, dependent claims inherit the deficiencies of the parent claim.

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 19-22 and 33-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are indefinite because:

they have an antecedent basis problem at --

a. Claims 19, line 5, returning data of the plurality of stripe units;

b. Claim 33, line 6, read data of the plurality of stripe units;

and, dependent claims inherit the deficiencies of the parent claim.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Elmore whose telephone number is (571) 272-4436. The examiner can normally be reached on Mon-Fri from 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Kim can be reached on (571) 272-4182. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

August 4, 2005


STEPHEN C. ELMORE
PRIMARY EXAMINER